

Listing of the Claims:

1. (Previously presented) A method of performing surgery on a leg of a patient, comprising:
 - making an incision in a knee portion of the leg having a length not more than 13 cm;
 - displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward; and
 - positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg and cutting bone of the leg while the patella is maintained offset from a normal position and not everted.
2. (Canceled)
3. (Previously presented) The method of claim 1, further comprising:
 - expanding the incision by applying a force against opposite edge portions of the incision, wherein the displacement of the patella from the normal position to the offset position is performed contemporaneously with the expanding of the incision.
4. (Original) The method of claim 1, further comprising cutting an end surface of at least one of the upper or lower portions of the leg.
5. (Previously presented) The method of claim 4 comprising:
 - moving at least one implant through the incision while the patella is offset from the normal position with the inner side of the patella facing inward; and
 - connecting the at least one implant with the cut end portion of at least one of the upper or lower portions of the leg.
6. (Original) The method of claim 1, further comprising connecting a guide member to at least one of the upper or lower portions of the leg.

7. (Original) The method of claim 6, wherein the guide member is connected to the upper portion of the leg, the upper portion being a femur, the guide member including a first end portion in engagement with a lateral condyle of the femur, the first end portion offset medially from a lateral edge portion of the lateral condyle, and a second end portion in engagement with a medial condyle of the femur, the second end portion offset laterally from a medial edge portion of the medial condyle.

8. (Original) The method of claim 7, further comprising cutting the lateral and medial condyle of the femur.

9. (Previously presented) The method of claim 8, further comprising:
moving at least one femoral implant through the incision while the patella is offset from the normal position with inner side of the patella facing inward; and
connecting the at least one femoral implant with the cut lateral and medial condyle of the femur.

10. (Previously presented) A method of performing surgery on a leg of a patient, comprising:
making an incision in a knee portion of the leg having a length not more than 13 cm;
displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward;
positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg;
and
connecting a guide member to at least one of the upper or lower portions of the leg; wherein the guide member is connected to the lower portion of the leg, the lower portion being a tibia.

11. (Original) The method of claim 10, further comprising cutting an end surface of the tibia.

12. (Original) The method of claim 11, further comprising:
moving at least one tibial implant through the incision while the patella is offset from the normal position with the inner side of the patella facing inward; and
connecting the at least one tibial implant with the cut end portion of the tibia.
13. (Original) The method of claim 1, further comprising:
moving a guide member into the incision, the guide member including opposite ends spaced apart by a distance which is less than a distance between a lateral epicondyle and a medial epicondyle on a femur;
positioning the guide member on the femur in the leg of the patient with the opposite ends of the guide member aligned with an axis through the lateral and medial epicondyles;
positioning the cutting tool on the guide member; and
moving the cutting tool along a guide surface on the guide member to cut the lateral and medial epicondyles on the femur.
14. (Previously presented) The method of claim 13, further comprising:
moving at least one femoral implant through the incision while the patella is offset from the normal position with the inner side of the patella facing inward; and
connecting the at least one femoral implant with the cut lateral and medial epicondyles of the femur.
15. (Previously presented) The method of claim 13, further comprising:
cutting the inner side of the patella in the knee portion of the leg, wherein the inner side of the patella faces towards a posterior portion of the knee portion of the leg and includes removing at least a portion of the inner side of the patella.

16. (Previously presented) A method of performing surgery on a leg of a patient, comprising:

- making an incision in a knee portion of the leg;
- displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward;
- positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg;
- cutting the inner side of the patella in the knee portion of the leg, wherein the inner side of the patella faces towards a posterior portion of the knee portion of the leg and includes removing at least a portion of the inner side of the patella; and
- positioning a guide assembly proximally to the patella, the guide assembly including a pair of substantially parallel arms and a slot having a guide surface configured for receiving a patella cutting tool.

17. (Original) The method of claim 16, wherein positioning the guide assembly comprises extending a first parallel arm under a superior aspect of the patella and a second parallel arm under an inferior aspect of the patella, such that the guide surface is aligned with the patella.

18. (Original) The method of claim 15, further comprising:

- moving at least one patella implant through the incision; and
- connecting the at least one patella implant to the cut inner side of the patella.

19. (Previously presented) A method of performing surgery on a leg of a patient, comprising:

- making an incision in a knee portion of the leg having a length not more than 13 cm;
- displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward;
- positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg;
- cutting the inner side of the patella in the knee portion of the leg, wherein the inner side of the patella faces towards a posterior portion of the knee portion of the leg and includes removing at least a portion of the inner side of the patella; and

wherein the inner side of the patella is cut prior to displacing the patella from the normal position to the offset position.

20. (Original) The method of claim 19, further comprising:

moving at least one patella implant through the incision prior to displacing the patella from the normal position to the offset position; and

connecting the at least one patella implant to the cut inner side of the patella prior to displacing the patella from the normal position to the offset position.

21. (Previously presented) A method of performing surgery on a leg of a patient, comprising:

making an incision in a knee portion of the leg;

displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward; and

positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg; and

supporting the patient with the lower portion of the leg suspended from the upper portion of the leg, wherein the lower portion remains suspended from the upper portion while the incision is made in the knee portion of the leg and the patella is moved to the offset position with the inner side of the patella facing inward.

22. (Original) The method of claim 1, further comprising;

moving a leading end of an endoscope through the incision to a posterior portion of the knee portion of the leg of the patient; and

inspecting the posterior portion of the knee portion of the leg, including viewing the posterior portion of the knee portion through the endoscope.

23. (Previously presented) A method of performing surgery on a leg of a patient, comprising:

making an incision in a knee portion of the leg having a length not more than 13 cm;

displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward;

positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg;
moving a leading end of an endoscope through the incision to a posterior portion of the knee portion of the leg of the patient;

inspecting the posterior portion of the knee portion of the leg, including viewing the posterior portion of the knee portion through the endoscope; and

moving the leg of the patient between a flexed condition and an extended condition, wherein the posterior portion of the leg is viewed, at least partially, during movement of the leg of the patient between the flexed and extended conditions.

24. (Previously presented) The method of claim 1, further comprising:

initiating a cut with the cutting tool along an end portion of at least one of the upper or lower portions of the leg to define a cutting surface; and

completing the cut while guiding the cutting tool along the cutting surface formed during making of the initial cut in an end portion of at least one of the upper or lower portions of the leg.

25. (Previously presented) A method of performing surgery on first and second portions of a leg of a patient, comprising:

making an incision in a knee portion of the leg having a length not more than 13 cm, the length shorter than the combined width of said first and second portions of the leg;

displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward;

positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg;
exposing the first portion of the leg through the incision and performing surgery on the first portion;

effecting relative movement between the upper and lower portions of the leg, thus exposing the second portion of the leg through the incision, thereby enabling surgery on the second portion through the incision.

26. (Previously presented) A method of performing surgery on a leg of a patient, comprising:
making an incision in a knee portion of the leg having a length not more than 13 cm;
displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward;
positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg;
and
providing an output signal which is a function of tension in a ligament extending between bones in the leg of the patient.

27. (Original) A method as set forth in claim 26, wherein providing the output signal comprises:
positioning a transducer between the ligament and a bone in the knee portion of the leg; and
providing an output signal which varies as a function of variations in force applied against the transducer during relative movement between the upper and lower portions of the leg.

28. (Original) The method of claim 1, wherein making the incision in the knee portion of the leg comprises making the incision adjacent to a medial edge portion of the patella.

29. (Original) The method of claim 1, wherein making the incision in the knee portion of the leg comprises making an incision having a length between about seven and thirteen centimeters.

30. (Previously presented) A method of performing surgery on a leg of a patient, comprising:
making an incision in a knee portion of the leg having a length not more than 13 cm;
displacing a patella in the knee portion of the leg from a normal position to an offset position with an inner side of the patella facing inward;

positioning a cutting tool proximal to at least one of an upper or a lower portion of the leg;
and

wherein displacing the patella from the normal position to the offset position comprises moving the patella laterally relative to the knee portion of the leg.

31. (Previously presented) A method of performing a knee arthroplasty surgery on a leg of a patient, comprising:

making an incision in a knee portion of the leg of the patient having a length not more than 13 cm;

cutting an inner side portion of a patella in the knee portion of the leg, the patella being disposed in a normal position relative to the knee portion of the leg; and

displacing the patella from the normal position to an offset position with an inner side of the patella facing inward.

32. (Original) The method of claim 31, further comprising:

moving at least one patella implant through the incision; and

connecting the at least one patella implant to the cut inner side of the patella.

33. (Original) The method of claim 32, wherein the at least one patella implant is connected to the patella prior to displacing the patella from the normal position to the offset position.

34. (Original) The method of claim 31, further comprising positioning a cutting tool proximal to at least one of the upper and lower portions of the leg.

35. (Original) The method of claim 34, further comprising cutting an end surface of at least one of an upper and lower portions of the leg.

36. (Original) The method of claim 35, further comprising:

moving at least one implant through the incision while the patella is offset from the normal position with the inner side of the patella facing inward; and

connecting the at least one implant with the cut end portion of at least one of the upper and lower portions of the knee portion of the leg.

37. (Original) The method of claim 35, wherein the upper portion of the leg is a femur and lateral and medial condyles of the femur are cut.

38. (Original) The method of claim 37, further comprising:

moving at least one femoral implant through the incision while the patella is offset from the normal position with the inner side of the patella facing inward; and

connecting the at least one femoral implant with the cut lateral and medial condyles of the femur.

39. (Original) The method of claim 35, wherein the lower portion of the leg is a tibia and an end portion of the tibia is cut.

40. (Original) The method of claim 39, further comprising:

moving at least one tibial implant through the incision while the patella is offset from the normal position with the inner side of the patella facing inward; and

connecting the at least one tibial implant with the cut end portion of the tibia.

41. (Original) The method of claim 31, wherein the inner side of the patella is cut prior to displacing the patella from the normal position to the offset position.

42. (Original) The method of claim 31, wherein displacing the patella from the normal position to the offset position comprises moving the patella laterally relative to the knee portion of the leg.

43. (Previously presented) A method of performing a knee arthroplasty surgery on a leg of a patient, comprising the steps of:

- making an incision in a knee portion of the leg having a length not more than 13 cm;
- cutting an inner side portion of a patella in the knee portion of the leg, the patella remaining in a normal position relative to the knee portion;
- moving a patella implant through the incision;
- connecting the patella implant to the cut inner side portion of the patella;
- displacing the patella from the normal position to an offset position with the cut inner side portion of the patella facing inward;
- cutting an end portion of at least one of an upper or a lower portion of the leg;
- moving at least one implant through the incision while the patella is offset from the normal position with the cut inner side portion of the patella facing inward; and
- connecting the at least one implant with the cut end portion of at least one of the upper or lower portions of the leg.

44. (Original) The method of claim 43, further comprising moving the patella into the normal position, wherein the inner side portion of the patella facing towards a posterior portion of the knee portion;

45. (Original) The method of claim 44, wherein the patella implant is connected to the cut inner side portion of the patella after moving the patella into the normal position from the offset position.

46. (Original) The method of claim 43, wherein the patella implant is connected to the cut inner side portion of the patella prior to displacing the patella from the normal position to the offset position.

47-50. (Canceled)

51. (Previously presented) The method of claim 30, further comprising the steps of:

forming an opening in a bone of the leg; and
positioning a portion of an intramedullary alignment device within said opening.

52. (Previously presented) The method of claim 30, further comprising the step of:
positioning an extramedullary alignment device proximate a bone of the leg.

53. (Previously presented) The method of claim 30, further comprising the step of:
supporting at least the lower portion of the leg on a supporting member including actuating
and controlling means, operative to move the lower portion of the leg.

54. (Previously presented) The method of claim 30, further comprising the step of:
viewing at least a portion of the interior of the leg during surgery using viewing
instrumentation selected from the group consisting of: endoscope, fluoroscope, magnetic
resonance imaging unit (MRI).

55. (Previously presented) The method of claim 30, further comprising the step of:
performing at least part of the surgery using a robotic device.

56. (Previously presented) The method of claim 30, further comprising the step of:
generating and projecting an image on a bone of the leg using a computer, said image
operative to guide cutting of the bone.

57. (Previously presented) The method of claim 30, further comprising the step of:
implanting an implant including a plurality of layers, at least one of said layers including at
least one material selected from the group consisting of: fetal cells, bone cells, embryonal cells,
stem cells.

58. (Previously presented) The method of claim 30, further comprising the steps of:
sequentially passing portions of an implant through said incision; and,

affixing at least two of said implant portions, one to the other, within the leg, in association with one side of the knee joint.

59. (Previously presented) The method of claim 30, further comprising the steps of:
replacing at least a portion of a single condyle with an implant; and,
replacing at least a portion of a trochlear groove with an implant.

60. (Previously presented) The method of claim 30, wherein the cutting tool is fabricated at a lower cost than a reusable cutting tool by being designed to be used in a single procedure and thereafter discarded.

61. (Previously presented) The method of claim 30, further comprising the step of:
positioning said cutting tool proximal to a side surface of the distal end of the femur to guide cutting the bone of the leg.

62. (Previously presented) The method of claim 30, further comprising the steps of:
making a second incision in a knee portion of the leg;
inserting at least one item through said second incision selected from the group consisting of: visualization instrument, inflatable balloon, part of a multi part implant, and surgical instrumentation.

63. (Withdrawn) A method of repairing a patella on a leg of a patient, comprising:
making an incision in a knee portion of the leg having a length not more than 13 cm;
cutting the patella while the patella is not everted, forming an elongated channel or projection on the patella; and

sliding a patellar implant, having a channel or projection mateably engageable with the channel or projection formed in the patella, onto the patella, from a medial or lateral approach to the patella, thereby affixing said implant onto the patella;

whereby the patella may be cut, and the implant engaged, without a requirement of substantial subluxation of the patella.

64. (Withdrawn) A method of repairing a patella on a leg of a patient, comprising:
making an incision in a knee portion of the leg having a length not more than 13 cm;
passing a guide wire through the incision;
attaching the guide wire to the patella;
passing a cutting tool along the guide wire, to contact and cut the patella while the patella is not everted, preparing the patella for a patellar implant; and
affixing a patellar implant to the patella, upon the cut portion of the patella, from a medial, lateral, or retrograde approach to the patella;
whereby the patella may be cut, and the implant engaged, without a requirement of substantial subluxation of the patella.

65. (Withdrawn) A method of performing surgery on a leg of a patient, comprising:
making an incision in a knee portion of the leg having a length not more than 13 cm;
disconnecting one of a medial or lateral collateral ligament;
hinging open the joint space, thereby moving the patella medially or laterally without substantially stretching the patellar ligaments;
performing a surgical procedure within the joint space; and
reconnecting the disconnected collateral ligament;
whereby when the patella is moved, an accessible area within the joint space is increased, thereby facilitating the surgery, without a requirement of substantial subluxation of the patella.

66. (Withdrawn) A method of performing surgery on a leg of a patient, comprising:
making an incision in a knee portion of the leg having a length not more than 13 cm;
cutting the patella while the patella is not everted;
attaching at least one transducer operative to indicate a force transmitted between the patella and the femur; and

attaching at least one inflatable bladder to the patella, operative to change a force transmitted between the patella and the femur;

whereby one or both of said transducer or bladder may be left inside the body after surgery, and

whereby patellar tracking may be corrected by inflating the at least one inflatable bladder, based on a force indicated by said at least one transducer.

67. (Withdrawn) A method of performing surgery on knee of a patient, comprising:
making an incision adjacent to a side surface of the patella of the knee, having a length not more than 13 cm;

positioning a guide, comprising two parallel arms and a saw guiding surface, in contact with the patella, by inserting the arms through the incision, one arm positioned under a superior aspect of the patella, and another arm under an inferior aspect of the patella, thus aligning the saw guiding surface with a portion of the patella to be cut;

cutting a surface of the patella using the saw guiding surface,

affixing a patellar implant to the patella, upon the cut portion of the patella, from a medial, lateral, or retrograde approach to the patella;

whereby the patella may be cut, and the implant engaged, without a requirement of substantial subluxation of the patella.